

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A 6-axis sensor for measuring 6-axis forces and moments or 6-axis accelerations and angular accelerations, externally applied, characterized by comprising:
a plurality of strain gauges disposed on one plane; and
a plurality of first diaphragms to which the plurality of strain gauges are attached;
wherein the plurality of first diaphragms are arranged around a central point of the plane
at regular angular intervals and at the same distance from the central point.
2. (Canceled)
3. (Canceled)
4. (Currently Amended) The 6-axis sensor according to claim ~~[[3]]~~ 1, characterized in that the angular interval is 90 degrees.
5. (Currently Amended) The 6-axis sensor according to claim ~~[[4]]~~ 1, characterized in that the diaphragms are disposed in positive and negative directions on X and Y axes with an origin being defined at the central point.
6. (Currently Amended) The 6-axis sensor according to claim ~~[[3]]~~ 1, characterized in that the angular interval is 120 degrees.
7. (Currently Amended) The 6-axis sensor according to claim ~~[[2]]~~ 1, characterized in that a thin portion of each of the plurality of first diaphragms is annular and provided with eight strain gauges, and
the strain gauges are disposed at outer and inner edge portions of ~~the each of the plurality~~
of first diaphragms on a line extending between a central point of ~~the each of the~~
plurality of first diaphragms and the central point of the plane, and at outer and
inner edge portions of ~~the each of the plurality of first diaphragms~~ on a line
perpendicular to the former line at the central point of ~~the each of the plurality of~~
first diaphragms.

8. (Currently Amended) The 6-axis sensor according to claim [[2]] 1, characterized in that the 6-axis sensor further comprises an operative body provided on a central portion of the one or more of the plurality of first diaphragms, and
6-axis accelerations and angular accelerations applied to the 6-axis sensor are measured.
9. (Currently Amended) The 6-axis sensor according to claim [[2]] 1, characterized in that the 6-axis sensor further comprises:
a first member comprising the one of the plurality of first diaphragms;
a second member comprising a second diaphragm opposed to the first diaphragm and provided with no strain gauges; and
a connecting shaft connecting the opposed first and second diaphragms, and
6-axis forces and moments applied between the first and second members are measured.
10. (Currently Amended) The 6-axis sensor according to claim [[2]] 1, characterized in that the 6-axis sensor further comprises:
a first member comprising the one of the plurality of first diaphragms;
a second member comprising a second diaphragm opposed to the first diaphragm and provided with a plurality of strain gauges disposed on one plane, and
a connecting shaft connecting the opposed first and second diaphragms; and
6-axis forces and moments applied between the first and second members are measured.
11. (Currently Amended) The 6-axis sensor according to claim [[10]] 1, characterized in that the strain gauges of the first member and the strain gauges of the second member are disposed symmetrically with respect to a barycentric point of the 6-axis sensor.
12. (Currently Amended) The 6-axis sensor according to claim [[11]] 1, characterized in that either outputs of the strain gauges of the first member and the strain gauges of the second member are adopted if the other outputs are out of a predetermined range.
13. (Currently Amended) ~~The 6-axis sensor according to claim 2, characterized in that only one diaphragm is disposed on the plane~~ A 6-axis sensor for measuring 6-axis forces and moments or 6-axis accelerations and angular accelerations, externally applied, the 6-axis sensor comprising:
a plurality of strain gauges disposed on one plane;

a plurality of first diaphragms to which the plurality of strain gauges are attached; and
operative bodies in contact with the plurality of first diaphragms at positions arranged
around the central point of the plane at regular angular intervals and at the same
distance from the central point;
wherein only one of the plurality of first diaphragms is disposed on the plane; and
wherein the 6-axis sensor is configured to measure 6-axis accelerations and angular
accelerations applied to the 6-axis sensor.

14. (Canceled)

15. (Canceled)

16. (Currently Amended) ~~The 6-axis sensor according to claim 13, characterized in that the 6-axis sensor further comprises~~ A 6-axis sensor for measuring 6-axis forces and moments or 6-axis accelerations and angular accelerations, externally applied, the 6-axis sensor comprising:

a plurality of strain gauges disposed on one plane;
a plurality of first diaphragms to which the plurality of strain gauges are attached;
wherein only one of the plurality of first diaphragms is disposed on the plane; and
a first member comprising one of the plurality of first diaphragms;
a second member comprising a second diaphragm provided with a plurality of strain gauges disposed on one plane; and
operative bodies connecting the first and second diaphragms,
wherein the first and second members are disposed so that a central point of the first diaphragm of the first member is opposed to a central point of the second diaphragm of the second member, and
wherein the operative bodies connects the first and second diaphragms at positions arranged around the central points of the first and second diaphragms at regular angular intervals and at the same distance from the central points, and 6-axis forces and moments applied between the first and second members are measured,
wherein the strain gauges of the first member and the strain gauges of the second member are disposed symmetrically with respect to a barycentric point of the 6-axis sensor, and

wherein either outputs of the strain gauges of the first member and the strain gauges of the second member are adopted if the other outputs are out of a predetermined range.

17. (Canceled)
18. (Canceled)
19. (Currently Amended) The 6-axis sensor according to claim ~~[[14]]~~ 13, characterized in that the angular interval is 90 degrees.
20. (Currently Amended) The 6-axis sensor according to claim ~~[[19]]~~ 13, characterized in that the operative bodies are disposed in positive and negative directions on X and Y axes with an origin being defined at the central point of the first diaphragm.
21. (Currently Amended) The 6-axis sensor according to claim ~~[[14]]~~ 13, characterized in that the angular interval is 120 degrees.
22. (Currently Amended) The 6-axis sensor according to claim ~~[[14]]~~ 13, characterized in that the strain gauges are disposed:
 - at edge portions of the operative bodies on a line extending between a central point of a portion on the plane corresponding to the operative bodies, and the central point of the first diaphragm;
 - at edge portions of the operative bodies on a line perpendicular to the former line at the central point of the portion on the plane corresponding to the operative bodies;
 - and
 - at either of edge portions of the operative bodies and edge portions of the first diaphragm, at positions arranged around the central point of the first diaphragm at regular angular intervals and at the same distance from the central point.
23. (Previously Presented) The 6-axis sensor according to claim 1, characterized in that each of the strain gauges is made of a piezoresistance element.
24. (Previously Presented) The 6-axis sensor according to claim 1, characterized in that each of the strain gauges is made of a thin film of chromium oxide formed on an insulating film.

25. (New) The 6-axis sensor according to claim 13, characterized in that each of the strain gauges is made of a piezoresistance element.
26. (New) The 6-axis sensor according to claim 13, characterized in that each of the strain gauges is made of a thin film of chromium oxide formed on an insulating film.
27. (New) The 6-axis sensor according to claim 16, characterized in that the angular interval is 90 degrees.
28. (New) The 6-axis sensor according to claim 16, characterized in that the operative bodies are disposed in positive and negative directions on X and Y axes with an origin being defined at the central point of the first diaphragm.
29. (New) The 6-axis sensor according to claim 16, characterized in that the angular interval is 120 degrees.
30. (New) The 6-axis sensor according to claim 16, characterized in that the strain gauges are disposed:
 - at edge portions of the operative bodies on a line extending between a central point of a portion on the plane corresponding to the operative bodies, and the central point of the first diaphragm;
 - at edge portions of the operative bodies on a line perpendicular to the former line at the central point of the portion on the plane corresponding to the operative bodies;
 - and
 - at either of edge portions of the operative bodies and edge portions of the first diaphragm, at positions arranged around the central point of the first diaphragm at regular angular intervals and at the same distance from the central point.
31. (New) The 6-axis sensor according to claim 16, characterized in that each of the strain gauges is made of a piezoresistance element.
32. (New) The 6-axis sensor according to claim 16, characterized in that each of the strain gauges is made of a thin film of chromium oxide formed on an insulating film.